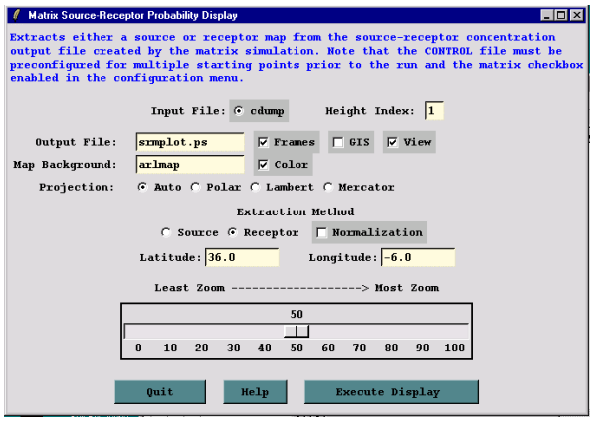
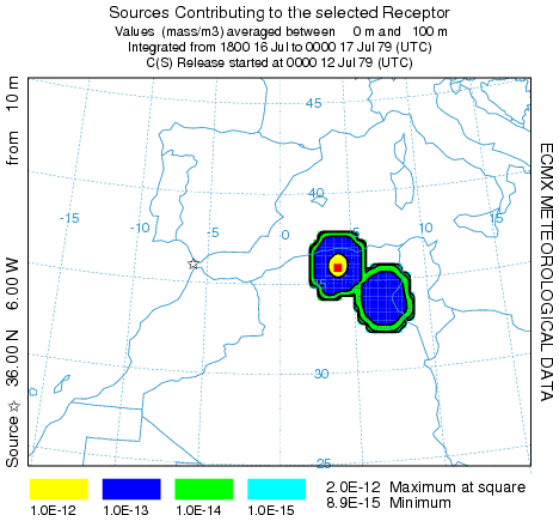
Source Attribution via Source-Receptor Matrices

The matrix approach to source attribution is set up in a similar manner to the previous discussion on to run the model with multiple sources. Use the same 3 starting locations as with the dust storm simulation to define the source region (20N-40N and 20W-20E). Use the ECMWF data, run the 3D-particle model for 120 hours with concentration output every 6 hours. Reduce the resolution of the concentration grid to 0.50 reduce memory requirements. Prior to executing the model through the "Run Matrix" tab of the "Special Simulations" menu, it is necessary to check the "Matrix" button in the advanced configuration menu. This causes the concentration grid to be reconfigured so that every source location with the matrix (861 in this example) will have its own concentration grid.

The final concentration output file can only be displayed through the "Matrix" tab of the display menu. The term "matrix" has two connotations with respect to HYSPLIT. In the earlier application, a matrix of sources was created. These results are summed to a single concentration file. In this application, defining a concentration grid for each source creates a matrix of sources and receptors. This requires a special preprocessor for the display program. In this example, selecting the "receptor" button causes the entered latitude-longitude value to be treated as the receptor point. The dispersion factors from each source to that receptor are then interpolated to a grid and displayed by time period. The last time period, coincident with the TOMS image, is shown below.





Previous Page | Next Page